

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A mining apparatus, comprising:
 - a miner;
 - a conveyor unit;
 - a steering unit connecting said miner and said conveyor unit;
 - a positioning sensor;
 - a controller responsive to said positioning sensor;
 - a first actuator carried on and connected to only one of said miner, said conveyor unit and said steering unit, said first actuator positioned to a first side of a midline of said miner; and
 - a second actuator carried on and connected to only one of said miner, said conveyor unit and said steering unit, said second actuator positioned to a second, opposite side of said midline of said miner;

wherein said first actuator includes a first displaceable guide element and said second actuator includes a second displaceable guide element, said first and second displaceable guide elements being extended approximately one half the length of their stroke when said miner is aligned with said conveyor unit;

whereby responsive to said controller said first and second actuators adjust a connection angle between said miner and said conveyor unit either side of parallel to determine a directional heading for said miner by one of said first or said second displaceable guide elements extending and the other of said first or said second displaceable guide elements retracting.
2. (Canceled)
3. (Previously Presented) The mining apparatus of claim 1, wherein said first displaceable guide element includes a first end having a first convex crown and said second displaceable guide element includes a second end having a second convex crown.
4. (Original) The mining apparatus of claim 3, wherein said first and second convex crowns

have a radius of curvature of about sixteen inches.

5. (Original) The mining apparatus of claim 4, wherein said first actuator is a first hydraulic cylinder and said second actuator is a second hydraulic cylinder.

6. (Original) The mining apparatus of claim 5, wherein each of said first and said second cylinders have a bore of about 10.0 inches, a stroke of about 1.5 inches and run at up to about 3,500 psi.

7. (Original) The mining apparatus of claim 3, wherein said first and second actuators are carried on said steering unit and said first and second ends respectively engage first and second cooperating bearing surfaces on said miner.

8. (Original) The mining apparatus of claim 3, wherein said first and second actuators are carried on said steering unit and said first and second ends respectively engage first and second cooperating bearing surfaces on said conveyor unit.

9. (Original) The mining apparatus of claim 3, wherein said first and second actuators are carried on said miner and said first and second ends respectively engage first and second cooperating bearing surfaces on said steering unit.

10. (Original) The mining apparatus of claim 3, wherein said first and second actuators are carried on said conveyor unit and said first and second ends respectively engage first and second cooperating bearing surfaces on said steering unit.

11. (Original) The mining apparatus of claim 1, wherein said steering unit is connected by a first pivot pin to said miner and by a second pivot pin to said conveyor unit.

12. (Original) The mining apparatus of claim 11, wherein said first pivot pin extends along a first plane and said second pivot pin extends along a second plane, said first and second planes being substantially perpendicular to one another.

13. (Original) The mining apparatus of claim 12, wherein said first plane is horizontal and said second plane is vertical.

14. (Original) The mining apparatus of claim 12, wherein said first plane is vertical and said second plane is horizontal.

15. (Original) The mining apparatus of claim 1, further including a mineral seam sensor for

locating a top and a bottom of the mineral seam being mined.

16. (Original) The mining apparatus of claim 15, wherein said mineral seam sensor is a gamma sensor.

17. (Currently Amended) A mining apparatus, comprising:
a miner;

a conveyor unit pivotally connected to said miner at a midline of said miner; and
a steering mechanism including a first displaceable steering element located at a first side of said miner midline and a second displaceable steering element located at a second side of said miner midline, said steering mechanism being carried by one of said miner and said conveyor unit, and said first and said second displaceable steering elements engaging the other of said miner and said conveyor unit whereby said a connection angle between said miner and said conveyor unit is adjusted to determine a directional heading for movement of said miner by one of said first or said second displaceable steering elements extending and the other of said first or said second displaceable steering elements retracting.

18. (Original) The mining apparatus of claim 17, further including a positioning sensor carried on said miner and a controller responsive to said positioning sensor.

19. (Original) The mining apparatus of claim 18, further including a mineral seam sensor for locating a top and a bottom of the mineral seam being mined.

20. (Original) The mining apparatus of claim 19, wherein said mineral seam sensor is a gamma sensor.

21. (Canceled)

22. (Canceled)

23. (Previously Presented) A method of guiding a mining apparatus including a miner and at least one conveyor unit through a mineral seam comprising:

positioning a guide mechanism between said miner and said at least one conveyor unit, said guide mechanism including a first displaceable steering element located at a first side of a midline of said miner and a second displaceable steering element located at a second side of said miner midline;

exerting a force between said miner and said at least one conveyor unit by one of said first or said second displaceable steering elements extending and the other of said first or said second displaceable steering elements retracting where a connection angle between said miner and said conveyor unit is changed, determining a directional heading of said miner; and

advancing said mining apparatus after adjusting said connection angle.

24. (Previously Presented) A method of guiding a mining apparatus including a miner and a conveyor unit through a mineral seam, comprising:

determining an actual position and heading for said miner;

comparing said actual position and heading to a desired position and heading for said miner;

adjusting a steering mechanism, said steering mechanism including a first displaceable steering element located at a first side of a midline of said miner and a second displaceable steering element located at a second side of said miner midline, engaged between said miner and said conveyor unit by one of said first or said second displaceable steering elements extending and the other of said first or said second displaceable steering elements retracting to bring said miner to said desired directional heading; and

advancing said miner along said desired directional heading.

25. (Canceled)

26. (Currently Amended) A mining apparatus, comprising:

a miner;

an adjacent conveyor unit;

a first actuator secured to said mining apparatus at a first side of a midline of said miner and a second actuator secured to said mining apparatus at a second side of said miner midline, said first and said second actuators each including a displaceable steering element having an end engaging a bearing surface on one of said miner and said conveyor unit;

where said first and second actuators adjust a connection angle between said miner and said conveyor unit to determine a directional heading for said miner by one of said first or said second actuator displaceable steering elements extending and the other of said first or said

second actuator displaceable steering elements retracting; and

where said conveyor unit remains adjacent to said miner at said midline of said miner during adjustment of said connection angle.

27. (Currently Amended) A method of guiding a mining apparatus including a miner and a conveyor unit, comprising:

positioning a first guide actuator on the mining apparatus at a first side of a midline of said miner and a second guide actuator on the mining apparatus at a second side of said miner midline; and

determining a directional heading of the miner by controlling a connection angle between the miner and the conveyor unit by exerting a steering force between the miner and the conveyor unit by one of said first or said second guide actuators extending and the other of said first or said second guide actuators retracting; and

advancing said mining apparatus after controlling said connection angle.

28. (New) The mining apparatus of claim 1, wherein spacing between said miner, said steering unit, and said conveyor unit along said midline of said miner remains substantially unchanged during adjustment of said connection angle.